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Date: 4-5-04

Himanshu S. Amin

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Applicant(s): Charles P. Thacker *et al.*

Serial No: 09/410,414

Filing Date: October 1, 1999

Examiner: Cesar B. Paula

Art Unit: 2178

Title: DYNAMICAL PAGINATION FOR ELECTRONIC DOCUMENTS

**Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF

Dear Sir:

Applicants submit this Appeal Brief in triplicate in connection with an appeal of the above-identified patent application. Please charge \$330.00 for the fee associated with this brief to Deposit Account No. 50-1063 [MSFTP270US].

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I. Real Party in Interest (37 C.F.R. §1.192(c)(1))

The real party in interest in the present appeal is Microsoft Corporation, the assignee of the present application.

II. Related Appeals and Interferences (37 C.F.R. §1.192(c)(2))

Appellants, appellants' legal representatives, and/or the assignee of the present application are not aware of any appeals or interferences which will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims (37 C.F.R. §1.192(c)(3))

Claims 1-33 are currently pending in the subject application and are presently under consideration. The rejection of claims 1-14, 18-27 and 29-33, and the objection to claims 15-17 and 28, are appealed.

IV. Status of Amendments (37 C.F.R. §1.192(c)(4))

No claim amendments have been entered subsequent the Final Office Action.

V. Summary of Invention (37 C.F.R. §1.192(c)(5))

The subject invention relates to dynamic pagination of electronic documents. (*See* pg. 2, ln. 15). The electronic documents can be dynamically paginated at display time such that page break locations within the documents are determined for a particular display device. The electronic documents comprise a number of segments. (*See* pg. 2, ln. 17). For example, according to an aspect of the present invention, page breaks can be determined for a predetermined segment of an electronic document. (*See* pg. 2, ln. 19-20). This predetermined segment can be, for example, entered into memory of the viewing device. (*See* pg. 2, ln. 20-21). A predetermined page then can be rendered within the predetermined segment and displayed.

VI. Statement of the Issues (37 C.F.R. §1.192(c)(6))

Whether claims 1-14, 20-27, and 30-33 are unpatentable under 35 U.S.C. §102(b) as being anticipated by Barker *et al.* (U.S. 4,739,477).

Whether claims 18, 19, and 29 are unpatentable under 35 U.S.C. §103(a) over Barker *et*

al. (U.S. 4,739,477), in view of *Chirokas et al.* (U.S. 5,111,397).

Applicants' representative acknowledges with appreciation the indication that claims 15-17, and 28 would be allowable if recast in independent form to include all limitations of respective base claims and any intervening claims. The option to recast these claims in such form at a later date if necessary is respectfully requested.

VII. Grouping of Claims (37 C.F.R. §1.192(c)(7))

For the purposes of this appeal only, the claims are grouped as follows:

Claims 1-33 stand or fall together.

VIII. Argument (37 C.F.R. §1.192(c)(8))

A. Rejection of Claims 1-14, 20-27, and 30-33 Under 35 U.S.C. §102(b)

Claims 1-14, 20-27, and 30-33 stand rejected under 35 U.S.C. §102(b) as being anticipated by *Barker et al.* (U.S. 4,739,477). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. *Barker et al.* does not teach or suggest each and every limitation of the claimed invention.

i. Applicable Law

A single prior art reference anticipates a patent claim only if it expressly or inherently describes ***each and every limitation*** set forth in the patent claim. *Trintec Industries, Inc., v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 U.S.P.Q.2D 1597 (Fed. Cir. 2002). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

- ii. ***Barker et al. does not teach or suggest each and every limitation set forth in claims 1-14, 20-27, and 30-33. Therefore, Barker et al. does not anticipate claims 1-14, 20-27, and 30-33.***

The subject invention relates to dynamic pagination of electronic documents, at display time such that page break locations are determined for a particular display device. (See pg. 12, ln. 1-18; pg. 7, ln. 15-21). Thus, according to an aspect of the subject invention, the document is not paginated until the time of display. On the contrary, Barker *et al.* utilizes static pagination where page break locations are determined while creating or after editing a document (see col. 12, ln. 1-67), and not at the time of display based on the characteristics of the display device.

The subject invention utilizes an electronic document that is partitioned into a ***plurality of segments***. (See pg. 8, ln. 14-15). More particularly, independent claim 1 (and similarly independent claims 6, 20, and 30) recites processing a document of at least text as a ***plurality of segments***. The specification notes that “[e]ach segment ... desirably corresponds to a meaningful partition of the document 100. For example, where the document 100 is an electronic book, each segment can correspond to a chapter within the book. As a further example, where the document 100 is an electronic magazine, each segment can correspond to an article within the magazine.” (See pg. 7, ln. 3-8). Utilizing an electronic document comprising a plurality of segments can conserve memory since only one predetermined segment is entered into memory at a given time. (See pg. 8, ln. 20-22).

Applicants’ respectfully disagree with the contentions noted in the Advisory Action dated Mar. 16, 2004, arguing that “a paragraph, and a page fits the definition of what a segment is.” (See Advisory Action dated Mar. 16, 2004, pg. 2). Even though Barker *et al.* discloses that the document can comprise paragraphs and pages, Barker *et al.* does not teach or suggest that the document comprises a ***plurality of segments*** as recited in the subject application. In particular, a page does not fit the definition of a segment in view of the claim limitation ***determining a plurality of page breaks within a predetermined segment*** recited in independent claims 1, 6, 20, 23, and 30. Such a definition creates a nonsensical result -- that a plurality of page breaks are determined within a page. Furthermore, it is noted that the applicant can be his own lexicographer.

Applicant may be his or her own lexicographer as long as the meaning assigned to the term is not repugnant to the term's well known usage. *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998).

Therefore, Barker *et al.* fails to teach or suggest that the document comprises a **plurality of segments** as recited in applicants' claimed invention.

Moreover, Barker *et al.* does not teach or suggest processing and/or entering and/or pouring a **predetermined segment** of the document as recited in independent claims 1, 6, 12, 20, 23, 26, and 30. Furthermore, Barker *et al.* does not teach or suggest **determining a plurality of page breaks within a predetermined segment** as recited in independent claims 1, 6, 20, 23, and 30 or **pouring text of the segment** into a series of predetermined slots as recited by independent claims 12 and 26. Barker *et al.* discloses that when a need for changing a page break location is found, the document is subject to pagination on "the current page and the succeeding pages as necessary." (See col. 14, ln. 48-50; col. 12, ln. 18-43; col. 14, ln. 46-54). The Examiner states that Barker *et al.* teaches that "[i]f the editing causes a portion of the document to be moved or reflowed onto the next page, then the pages in the rest of the document from that point – predetermined segment – is repaginated or plurality of page breaks determined on the rest of the document." (See Advisory Action dated Feb. 2, 2004, pg. 2). This statement further illustrates the differences between applicants' invention and the cited reference, since Barker *et al.* discloses that page breaks are not determined for a **predetermined segment** of the document. In particular, claims 1, 6, 20, 23, and 30 recite determining a plurality of page breaks **within** a predetermined segment. Within is defined as "inside the fix limits of; not beyond." (See The American Heritage Dictionary, 4th Edition). Barker *et al.* instead discloses that after editing, the "rest of the document from that point forward is dynamically broken up or formatted into several pages." (See Final Office Action dated August 28, 2003, pg. 6). Thus, Barker *et al.* teaches pagination of an entire document and/or remainder of a document rather than pagination of a **predetermined segment** as in applicants' claimed invention. Additionally, Barker *et al.* is silent regarding **pouring text of the segment** as recited in applicants' claims. The subject invention

employs *pouring* to determine an amount of text that will fit onto each page within a predetermined section of an electronic document to facilitate dynamical pagination. (See pg. 10, ln. 14-17). Applicants' invention, by only entering one predetermined segment into memory at a given time and only paginating the one predetermined segment into pages, conserves memory and reduces processing time. (See pg. 8, ln. 20 – pg. 9, ln. 3).

In view of at least the above, it is readily apparent that Barker *et al.* does not anticipate or suggest the subject invention as recited in claims 1, 6, 12, 20, 23, 26, and 30 (and claims 2-5, 7-11, 12-14, 21-22, 24-25, 27, and 31-33 which respectively depend there from). This rejection should be withdrawn.

B. Rejection of Claims 18, 19, and 29 Under 35 U.S.C. §103(a)

Claims 18, 19, and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Barker *et al.* (U.S. 4,739,477), in view of Chirokas *et al.* (U.S. 5,111,397). It is submitted that this rejection should be withdrawn for at least the following reasons. Barker *et al.* and Chirokas *et al.*, alone and/or in combination, fail to teach or suggest every limitation set forth in the subject claims.

As discussed *supra*, Barker *et al.* does not anticipate or suggest all of the limitations of independent claims 12 and 26, from which claims 18, 19, and 29 respectively depend. Chirokas *et al.* does not make up for these deficiencies of Barker *et al.* Accordingly, this rejection should be withdrawn.

IX. Conclusion

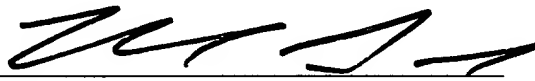
The present application is believed to be in condition for allowance, in view of the above comments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

AMIN & TUROCY, LLP



Himanshu S. Amin

Reg. No. 40,894

AMIN & TUROCY, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731

X. Appendix of Claims (37 C.F.R. § 1.192(c)(9))

1. (Original): A computer-implemented method comprising:
processing a document of at least text as a plurality of segments;
determining a plurality of page breaks within a predetermined segment;
rendering a predetermined page within the predetermined segment; and,
displaying the predetermined page.
2. (Original): The method of claim 1, wherein processing a document of at least text as a plurality of segments comprises assembling the document into the plurality of segments.
3. (Original): The method of claim 1, wherein processing a document of at least text as a plurality of segments comprises dividing the document into the plurality of segments.
4. (Original): The method of claim 1, wherein determining a plurality of page breaks within a predetermined segment comprises:
pouring text of the predetermined segment into a series of predetermined slots of a first page organized into at least one column of the first page, until the slots of the first page have been processed;
denoting a page break; and,
repeating pouring the text into successive pages and denoting a page break until the text is depleted.

5. (Original): The method of claim 4, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

advancing the current slot to a next slot and repeating until the slots of the page have been processed.

6. (Previously presented): A computer-implemented method for dynamically paginating a document having a plurality of segments comprising:

entering a predetermined segment of the document into memory;

determining each of a plurality of page breaks within the predetermined segment of the document; and,

storing the plurality of page breaks within the predetermined segment of the document in the memory.

7. (Original): The method of claim 6, wherein determining each of a plurality of page breaks within the predetermined segment of the document comprises:

pouring text of the predetermined segment into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page have been processed;

denoting a page break; and,

repeating pouring the text into a next page until finished.

-
8. (Original): The method of claim 7, wherein pouring the text into a series of predetermined slots comprises:
- from a current position in the text, determining a maximum number of words that fit into a current slot;
 - advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,
 - advancing the current slot to a next slot and repeating until the slots of the page have been processed.
9. (Original): The method of claim 6, further comprising displaying a desired page.
10. (Original): The method of claim 9, wherein displaying a desired page comprises:
- determining a page break corresponding to the desired page; and,
 - laying out the page, including determining how text is to be displayed in each slot of the page.
11. (Original): The method of claim 9, wherein displaying a desired page comprises rendering the desired page for display on a display device.
12. (Original): A computer-implemented method for dynamically paginating a segment of a document of at least text comprising, for each of at least one page of the segment:
- pouring text of the segment into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page have been processed; and,
 - denoting a page break.

13. (Original): The method of claim 12, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

advancing the current slot to a next slot and repeating until the slots of the page have been processed.

14. (Original): The method of claim 12, wherein the series of predetermined slots of the page each has a predefined height and a predefined width.

15. (Original): The method of claim 12, wherein the text is defined as a series of lines and wherein pouring the text comprises:

determining whether a current line refers to an image;

upon determining that the current line refers to an image, determining whether the image has sufficient room on the page to fit, given already filled slots on the page and resizing scale of the image as necessary; and,

upon determining that the image has sufficient room on the page to fit, accommodating the image on the page, decreasing in size subsequent slots on the page as necessary.

16. (Original): The method of claim 15, wherein upon determining that the image has insufficient room on the page to fit, postponing accommodation of the image to the next page.

17. (Original): The method of claim 15, wherein the image has a predetermined position of at least one of: in-line, left justified in current column, right justified in current column, center justified in current column, top of page, vertically center of page, bottom of page, left justified in page, right justified in page, horizontally center of page.

18. (Previously presented): The method of claim 12, wherein the text is defined as a series of lines and wherein pouring the text comprises:

- determining whether a current line refers to a footnote;
- upon determining that the current line refers to a footnote, determining whether the footnote has sufficient room on the page to fit, given already filled slots on the page; and,
- upon determining that the footnote has sufficient room on the page to fit, accommodating the footnote at a bottom of a column on the page, decreasing in number slots of the column as required.

19. (Original): The method of claim 18, wherein upon determining that the footnote has insufficient room on the page to fit, postponing accommodation of the footnote to a next page.

20. (Original): A machine readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

- processing a document of at least text as a plurality of segments;
- determining a plurality of page breaks within a predetermined segment;
- rendering a predetermined page within the predetermined segment; and,
- displaying the predetermined page.

21. (Original): The medium of claim 12, wherein determining a plurality of page breaks within a predetermined segment comprises:

- pouring text of predetermined segment into a series of predetermined slots of a first page organized into at least one column of the first page, until the slots of the first page have been processed;
- denoting a page break; and,
- repeating pouring the text into successive pages and denoting a page break until the text is depleted.

22. (Original): The medium of claim 21, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and

advancing the current slot to a next slot and repeating until the slots of the page have been processed.

23. (Original): A machine readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

entering a predetermined segment of the document into memory;

determining each of a plurality of page breaks within the predetermined segment of the document; and,

storing the plurality of page breaks within the predetermined segment of the document in the memory.

24. (Original): The medium of claim 23, wherein determining each of a plurality of page breaks within the predetermined segment of the document comprises:

pouring text of the predetermined segment into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page have been processed;

denoting a page break; and,

repeating pouring the text into a next page until finished.

25. (Original): The medium of claim 24, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

advancing the current slot to a next slot and repeating until the slots of the page have been processed.

26. (Original): A machine readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

pouring text of the segment into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page have been processed; and,

denoting a page break.

27. (Original): The medium of claim 26, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

advancing the current slot to a next slot and repeating until the slots of the page have been processed.

28. (Original): The medium of claim 26, wherein the text is defined as a series of lines and wherein pouring the text comprises:

determining whether a current line refers to an image;

upon determining that the current line refers to an image, determining whether the image has sufficient room on the page to fit, given already filled slots on the page and resizing scale of the image as necessary; and,

upon determining that the image has sufficient room on the page to fit, accommodating the image on the page, decreasing in size subsequent slots on the page as necessary.

29. (Previously presented): The medium of claim 26, wherein the text is defined as a series of lines and wherein pouring the text comprises:

determining whether a current line refers to a footnote;

upon determining that the current line refers to a ~~an~~ footnote, determining whether the footnote has sufficient room on the page to fit, given already filled slots on the page; and,

upon determining that the footnote has sufficient room on the page to fit, accommodating the footnote at a bottom of a column on the page, decreasing in number slots of the column as required.

30. (Original): An electronic device comprising:

a storage to store a document having a plurality of segments;

a memory to store one of the plurality of segments; and,

a processor to execute a program to determine a plurality of page breaks within the one of the plurality of segments stored in the memory.

31. (Previously presented): The device of claim 30, further comprising:

a display device to display a page of the one of the plurality of segments, wherein the processor is further to execute a second program to render the page to be displayed on the display device.

32. (Previously presented): The device of claim 30, wherein the program determines the plurality of page breaks by:

pouring text of the one of the plurality of segments into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page have been processed;

denoting a page break; and,

repeating pouring the text into a next page until finished.

33. (Original): The device of claim 32, wherein the program is to pour the text into a series of predetermined slots by:

from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

advancing the current slot to a next slot and repeating until the slots of the page have been processed.